



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/764,599	01/27/2004	Yoshiko Hoshiyama	Q79583	6154
23373 7590 12/11/2008 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER UHLENHAKE, JASON S	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 12/11/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/764,599

**Applicant(s)**

HOSHIYAMA ET AL.

**Examiner**

JASON S. UHLENHAK

**Art Unit**

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valero (U.S. Pub. 2003/0081038) in view of Yamada (U.S. Pat. 6,726,302).

***Valero ('038) discloses:***

- ***regarding claim 1***, method for ejecting liquid with steps of forming an adjustment pattern in a predetermined position on a medium (30) by ejecting said liquid onto said medium (Paragraphs 0009 – 0012); determining whether or not to form said adjustment pattern again (Figure 5, Paragraph 0055); and if it is determined that said adjustment pattern is to be formed again, then forming said adjustment pattern again in a position that differs from said predetermined position by ejecting liquid onto said medium (30) (Paragraphs 0012, 0021, Figure 1 – 402,404,406,408; Figure 5)
- ***regarding claim 2***, if additional adjustment pattern is to be formed on said medium (30) after forming said adjustment pattern again, then said additional adjustment pattern is formed in a position that differs from both the position in which said adjustment pattern has been formed earlier and the position in which said adjustment pattern has been formed again (Paragraph 0012, Figure 1 – 402,404,406,408)

- **regarding claim 3**, adjustment pattern is formed in a plurality of locations on said medium; and adjustment patterns are formed again in correspondence with each of the adjustment patterns that have been formed earlier in said plurality of locations (Paragraph 0012, Figure 1 – 402,404,406,408)

- **regarding claim 7**, adjustment pattern formed earlier and said adjustment pattern formed again are formed by an ejection head that is for ejecting liquid while moving relatively with respect to said medium (30) (Paragraph 00009); said adjustment pattern that has been formed earlier and said adjustment pattern that has been formed again are patterns for adjusting a misalignment between a position on said medium (30) where said liquid reaches when said ejection head moves in one direction, and a position on said medium (30) where said liquid reaches when said ejection head moves in another direction (Paragraph 0042)

- **regarding claim 8**, adjustment pattern that has been formed earlier and said adjustment pattern that has been formed again are patterns for adjusting a carry amount for which said medium is carried (Paragraphs 0036-0038, 0044)

- **regarding claim 9**, setting the position in which said adjustment pattern is to be formed again (Figure 5, Paragraph 0056)

- **regarding claim 10**, wherein said liquid is ink (Paragraph 0009); and said adjustment pattern formed earlier and said adjustment pattern formed again are printed by ejecting said ink onto said medium (30) (Paragraphs 0009 - 0010)

- **regarding claim 11**, a liquid ejecting apparatus for ejecting liquid onto a medium (Figure 4, 408, 410, 412, 414), wherein said liquid ejecting apparatus is

capable of forming and adjustment pattern in a predetermined position on said medium (30) with said liquid ejection section (Paragraphs 0009 – 0012), wherein after forming said adjustment pattern, said liquid ejection apparatus determines whether or not to form said adjustment pattern again; and wherein (Figure 5, Paragraph 0055), if it is determined that said adjustment pattern is to be formed again, then said liquid ejection apparatus forms said adjustment pattern again in a position that differs from said predetermined position by ejecting liquid onto said medium (30) (Paragraph 0012)

- **regarding claim 12**, a computer-readable storage medium having a computer program for controlling a liquid ejecting apparatus capable of ejecting liquid onto a medium (30) (Paragraph 0055), with said program causing said liquid ejecting apparatus to execute the steps of; forming and adjustment pattern in a predetermined position on said medium (30) by ejecting liquid onto said medium (30) (Figure 5); if determined that said adjustment pattern is to be formed again, then forming said adjustment pattern again in a position that differs from said predetermined position by ejecting liquid onto said medium (30) (Paragraph 0055, Figure 5; Paragraph 0012, Figure 1 – 402,404,406,408)

- **regarding claim 13**, computer system comprising, a computer; and a liquid ejecting apparatus (Figure 4, 408, 410, 412, 414) that is connected to said computer such that said liquid ejecting apparatus can establish wired or wireless communication with said computer (Paragraphs 0050, 0055); wherein said liquid ejecting apparatus is capable of forming an adjustment pattern in a predetermined position on a medium (30) by ejecting liquid onto said medium (30) medium

(Paragraphs 0009 – 0012); wherein after forming said adjustment pattern, said liquid ejecting apparatus determines whether or not to form said adjustment pattern again; and if it is determine that said adjustment pattern is to be formed again, then said liquid ejecting apparatus forms said adjustment pattern again in a position that differs from said predetermined position by ejecting liquid onto said medium (30) (Paragraph 0055, Figure 5; Paragraph 0012, Figure 1 – 402,404,406,408)

***Valero ('038) does not disclose expressly the following:***

- ***regarding claims 1, 11-13***, based on the adjustment pattern that has been formed previously, whether or not to form the adjustment pattern again with a liquid ejection section;
- initializing a number of times of printing of the adjustment pattern and storing the number of times of printing; obtaining the number of times of printing that has been stored
- setting again the medium on which the adjustment pattern has been formed to a paper supply section, and forming the adjustment pattern again in a position that differs from the predetermined position based on the number of times of printing that has been obtained by ejecting liquid from the liquid ejecting section onto the medium on which the adjustment pattern has been formed and which is supplied from the paper supply section

***Yamada discloses:***

- **regarding claims 1, 11-13**, determining, based on the adjustment pattern that has been formed previously, whether or not to form the adjustment pattern again with a liquid ejection section (Column 9, Lines 50-67);
- initializing a number of times of printing of the adjustment pattern and storing the number of times of printing; obtaining the number of times of printing that has been stored
- setting again the medium on which the adjustment pattern has been formed to a paper supply section, and forming the adjustment pattern again in a position that differs from the predetermined position based on the number of times of printing that has been obtained by ejecting liquid from the liquid ejecting section onto the medium on which the adjustment pattern has been formed and which is supplied from the paper supply section (Column 9, Line 50 - Column 10, Line 6 and Lines 22-27), for the purpose of adequately deciding if a print failure has occurred in the printing apparatus

It is obvious to a person of ordinary skill in the art to program and automate a liquid ejecting device to print at different positions multiple adjustment patterns on the same media and keeping track how many of the adjustment patterns have been printed, for the purpose of conserving media, making the patterns user friendly so they can be clearly examined by the user and effectively using the printing media.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Yamada into the device of Valero,

for the purpose of adequately deciding if a print failure has occurred in the printing apparatus

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valero (U.S. Pub. 2003/0081038) as modified by Yamada (U.S. Pat. 6,726,302) as applied to claim 1 above, and further in view of Williams (U.S. Pat. 6,14,749).

***Valero as modified by Yamada discloses all of the claimed limitations except for the following:***

- ***regarding claim 4***, at least either one of said adjustment pattern formed earlier on said medium or said adjustment pattern formed again on said medium is marked in the vicinity thereof with a character for specifying that it is the adjustment pattern formed earlier or a character for specifying that it is the adjustment pattern formed again.

***Williams discloses the following:***

- ***regarding claim 4***, at least either one of said adjustment pattern formed earlier on said medium or said adjustment pattern formed again on said medium is marked in the vicinity thereof with a character for specifying that it is the adjustment pattern formed earlier or a character for specifying that it is the adjustment pattern formed again (Column 2, Lines 18 – 44).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Williams into the device of Valero as modified by Yamada, for the purpose of allowing adjustment patterns to be readily visible to the operator.



Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valero (U.S. Pub. 2003/0081038) as modified by Yamada (U.S. Pat. 6,726,302) as applied to claim 1 above, and further in view of Butterfield (U.S. Pat. 6,685,297).

***Valero as modified by Yamada discloses all of the claimed limitations except for the following:***

- ***regarding claim 5***, said adjustment pattern that is formed again is formed side by side with said adjustment pattern that has been formed earlier.

***Butterfield discloses the following:***

- ***regarding claim 5***, said adjustment pattern that is formed again is formed side by side with said adjustment pattern that has been formed earlier (Figure 2; Column 3, Lines 47 – 50)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Butterfield into the device of Valero as modified by Yamada, for the purpose of creating a test print for use in aligning one or more print heads in a print head unit.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valero (U.S. Pub. 2003/0081038) as modified by Yamada (U.S. Pat. 6,726,302) as applied to claim 1 above, and further in view of Valero (U.S. 6,802,580)

***Valero ('038) as modified by Yamada does not disclose expressly the following:***

- **regarding claim 6**, said adjustment pattern that is formed again is formed diagonally adjacent of said adjustment pattern that has been formed earlier.

***Valero ('580) discloses:***

- **regarding claim 6**, said adjustment pattern that is formed again is formed diagonally adjacent of said adjustment pattern that has been formed earlier (Figure 4; Column 7, Lines 12 – 19), for the purpose of distinguishing the dots or lines printed by one nozzle from those printed by another nozzle.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Valero ('580) into the device of Valero as modified by Yamada, for the purpose of distinguishing the dots or lines printed by one nozzle from those printed by another nozzle.

***Response to Arguments***

Applicant's arguments filed 8/14/2008 have been fully considered but they are not persuasive. It would be obvious for a person of ordinary skill in the art to program and automate a liquid ejecting device to print a plurality of adjustment patterns at multiple positions based on the number of times the adjustment pattern has been printed on the same media. This would allow the user to effectively use the printing media by reprinting the adjustment pattern on the same media. One of ordinary skill in the art would recognize benefits such as conserving media and printing multiple patterns in different positions so they can be clearly examined by the user.

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/JASON S UHLENHAKE/  
Examiner, Art Unit 2853  
December 3, 2008

/Julian D. Huffman/  
Primary Examiner, Art Unit 2853